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BUMED NEWS LETTER

a digest of timely information

Editor - Captain F. W. Farrar. (MC). U.S.N.

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Circular Letters:

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Guide for Disposition of Persons with Abnormal Pulmonary Findings on X-Ray Films: The Navy has studied and filed over 7,000,000 photofluorographic films of the chest made during the past two and one half years. The films were made as part of the permanent program of screening all Navy and Marine Corps personnel at regular annual intervals while on active duty, upon enlistment or appointment, and upon separation from the Service, for the purpose of discovering diseases of the chest which require treatment or which are disqualifying for the Service.

Review of all reports concerning these examinations and of the Reports of Medical Survey for tuberculosis has revealed some lack of uniformity in the disposition of persons with abnormal findings. There has been a tendency to label persons as tuberculous whose only evidence of disease is suspicious findings seen in the x-ray examination of the chest. This is scientifically unsound, and should not become commonplace lest erroneous diagnoses be established, damage be done to the careers of personnel under examination, and the Navy needlessly deprived of the services of highly trained individuals.

Specialists in tuberculosis rightly insist that, before final diagnosis, every attempt be made to obtain sputum specimens and that such specimens be submitted to meticulous examination, that is, by direct smear of actual sputum, and, if this is negative, by culture or guinea pig inoculation. If sputum is not present, a stomach washing, during a fasting state, should be made and the contents examined by appropriate culture methods in laboratories staffed by skilled bacteriologists. In cases of pleural effusion, the same procedure should be followed, as well as culture of the pleural fluid.

If, after diligent search, the causative organism, Mycobacterium tuberculosis hominis, is not found, one should hesitate to establish the diagnosis of pulmonary tuberculosis but, perhaps, should limit the diagnosis to such terms as "Infiltration, Pulmonary, cause not determined," "Fibrosis, Pulmonary, cause not determined," "Calcification, Pulmonary, cause not determined," or other terminology appropriate to an xy designation in class XVIII of the Diagnostic Nomenclature. This does not mean that many of the shadows seen on routine films are not the residue of a tuberculous process that once was active - especially if the tuberculin test is positive. Nor does it mean that the person should not be observed at short intervals, periodically, for several years to detect the occurrence of new evidence of disease activity. But, to be precise in the practice of medicine, such persons should be only "suspect" until such time as the specific bacilli of tuberculosis have been demonstrated or some other diagnosis established. The maxim, "Do not diagnose pulmonary tuberculosis on the basis of a screening x-ray film alone," is an excellent one.

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Suspicious cases must be studied by means of a careful history, including recent or present symptoms which are characteristic of tuberculosis, and by means of a complete physical examination to disclose evidence of disease in the lungs or elsewhere in the body. For differential diagnosis, it is essential to use the tuberculin test by the intracutaneous route, properly applied and expertly interpreted. In the presence of a negative tuberculin test, other reasons than tuberculosis must be considered as a cause of the x-ray shadows, even though their location and appearance be characteristic. Even for a person whose film shows a cavity, a negative tuberculin test demands that cause other than tuberculosis be sought.

No person should be labeled with the diagnosis of pulmonary tuberculosis on the basis of incomplete evidence. It is most important in the presence of suspicious film findings that confirmatory evidence in the form of positive tuberculin test and positive bacillary findings be sought. Treatment should be held in abeyance in "suspicious" cases until all the facts are in and all the evidence evaluated. If such practice is followed, medical officers will gain in skill and accuracy, valuable man-days will be conserved, and, most important, the individual suspected of having tuberculosis will be assured of thorough and scientific diagnosis and treatment.

A careful history, with special attention to the principal symptoms, (loss of appetite, indigestion, blood-spitting, cough, etc.), should be permanently recorded at the first visit, and a tuberculin test performed. (Note: In order to avoid severe reactions, the patient should be first tested with 0.00002 mg. P.P.D.; if reaction to this dose is absent after 72 hours, he should be tested with 0.005 mg.). If the person is expectorating, give him a container and instruct him how to collect the sputum. He can collect a seventy-two hour specimen prior to the reading of the tuberculin test and submit it for examination when the tuberculin test is interpreted. If he is not expectorating, plan for a gastric lavage. In preparation for the gastric lavage, no food should be taken after ten o'clock of the evening before the lavage and no food or fluids during the morning of the lavage until after the specimen has been obtained. For complete examination of the sputum or gastric content a patient may require study for as long as six weeks.

If no sputum is obtained and the patient is a nonreactor to the tuberculin test, no gastric lavage is necessary. The examination at that time is then complete. The patient, however, should receive another tuberculin test in six weeks; if sensitivity to tuberculin has not developed by this time, the patient may be referred to the general medical service as nontuberculous. Some other cause must be found for the shadows on the x-ray films. (A certain percentage of cachectic tuberculous patients and some with overwhelming

Tubercle Bacilli	Cavity On X-ray Film	Tuberculin Test P.P.D. First Test: 0.00002 mg. Second Test: 0.005 mg.	Principal Symptoms: Temperature, Fatigue, or Weight loss	Hospitalization for Treatment	Special Study or Follow-Up For Tuberculosis	General Medical Observation
No Sputum or Sputum Smear Negative	Absent	Non-reactor	Absent			Indicated
	NOTE: May omit culture of sputum or gastric washings only if all findings are negative.					
Sputum Culture Negative or No Sputum but Gastric Culture Negative	Absent	Non-reactor	Present		Indicated	
	Present	Non-reactor	Present or Absent		Indicated	
	Suspected or Absent	Reactor	Present or Absent		Indicated	
	Present	Reactor	Present or Absent		Indicated	
No Sputum but Gastric Culture Positive	Suspected or Absent	Reactor	Present or Absent	Indicated		
	Present	Reactor	Present or Absent	Indicated		
Positive Sputum (smear or culture)	Suspected or Absent	Reactor	Present or Absent	Indicated		

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infections, such a miliary tuberculosis, do not react to tuberculin. Certain diseases, such as measles, markedly depress tuberculin allergy.)

If there is no sputum and the patient is a reactor to the tuberculin test, a gastric lavage should be done immediately and the gastric washings sent to a laboratory known at that time to possess the facilities and personnel qualified to do cultures (direct smear is of no value in the examination of the gastric contents).

If the culture of the sputum or of the specimen obtained on gastric lavage is negative, it may be necessary that the procedure be repeated. During this process the x-ray examination should be repeated at intervals for the observation of any changes which may be taking place. It is to be emphasized that studies for determining the presence of tuberculosis must not be permitted to delay study for the presence of other conditions which the x-ray findings may represent.

Use of the accompanying schedule may facilitate classification and disposition of patients under observation.

Reference to recent textbooks and to such publications as the latest edition (1940) of "Diagnostic Standards" of the National Tuberculosis Association is recommended to complement the information given above.

NOTE: The above is largely based upon and modeled after the article of the same title in Public Health Reports of 6 December 1946.

(Preventive Medicine Div., BuMed)

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Disseminated Pulmonary Calcification: During the past 30 years, there have been considerable discussion and speculation in the literature concerning the possible cause of disseminated pulmonary calcification. It has been suggested that such calcification represents healed miliary tuberculosis or healed tuberculous bronchopneumonia.

It should be noted that most cases of disseminated pulmonary calcification have been found in the central region of the United States. It has been observed for more than 20 years that many people in this region have pulmonary calcification but do not react to tuberculin. Palmer has noted that in this area nontuberculous pulmonary calcification is most frequently found in persons who

react to histoplasmin. He has also pointed out that in the United States significant geographic differences exist in the levels of histoplasmin sensitivity and, furthermore, that these levels are highest in the central region. Zwerling and Palmer reported 15 persons who showed disseminated pulmonary calcification, and noted that 14 reacted to histoplasmin.

In this study, 113 instances of the occurrence of disseminated pulmonary calcification were collected from various sources. Sixty-four of these were observed in Kansas City, Mo., among a group of approximately 16,000 children of school and preschool age who were given intradermal tuberculin and histoplasmin tests and examined with 11" x 14" or 14" x 17" roentgenograms of the chest.

The tuberculin used was 0.001 mg. of PPD-S, furnished by Dr. Florence Seibert of the Henry Phipps Institute, University of Pennsylvania, Philadelphia; the histoplasmin, furnished by Dr. C. W. Emmons of the National Institute of Health, was a 1 to 1,000 dilution of his lot H3. A reaction to tuberculin or histoplasmin was considered positive if the induration measured 5 or more millimeters in diameter at the 48-hour reading.

Of the 64 cases of disseminated pulmonary calcification found in the group of children cited above, 62 received both the tuberculin and histoplasmin tests. The following observations were made concerning these cases:

1. The frequency among the whites rose steadily from none in the age group under 4 years to 10 per 1,000 in the age group from 16 to 18 years.

2. Negroes showed less calcification of this type than whites - 1.2 per 1,000 in the former and 4.5 per 1,000 in the latter.

3. A definite familial relationship was noted.

4. Roentgenographic abnormalities other than the disseminated calcification were noted in only 1 of the 64 cases.

5. In 58 of the 62 cases the reaction was positive to histoplasmin only; in 2 of the 62 cases both tests were positive; and in the other 2 of the 62 cases both tests were negative. It is seen that in none of these 62 cases was the reaction positive to tuberculin and negative to histoplasmin.

In the 49 additional instances of the occurrence of disseminated calcification, 46 persons were tested with tuberculin and histoplasmin. Among these, 35 (76.1 per cent) reacted only to histoplasmin and none only to tuberculin. The number of persons that reacted to both antigens was 9 (19.6 per cent), and 2 (4.3 per cent) reacted to neither antigen. The number of persons that reacted to histoplasmin was 44 (95.7 per cent).

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Of the 113 persons considered in this study, 108 received tests with tuberculin and histoplasmin. One hundred and four persons, or 96.3 per cent, reacted to histoplasmin, but only 4 had negative reactions to this antigen. None reacted only to tuberculin. This latter finding appears to be strong evidence that disseminated calcifications are not frequently caused by tubercle bacilli, but probably by the agent producing sensitivity to histoplasmin. (Pub. Health Reps., Jan. 3, '47 - High et al.)

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BCG Vaccination of Personnel of Hospitals and Sanatoria: Since the discovery by Koch, six decades ago, of the organism, Mycobacterium tuberculosis hominis, causative of tuberculosis, the case rates and death rates have fallen. Despite the success attained by measures to protect the public health against tuberculosis, there has been an unabated continuation in the rate of breakdown with tuberculosis among persons caring for tuberculous patients. Because of the particularly high incidence of infection with tuberculosis in Saskatchewan among the sanatorium nurses, and attendants and nurses-in-training in hospitals, a special study involving the use of BCG vaccine was begun in 1938 under the direction of the National Research Council of Canada.

The vaccine used was prepared by Dr. Armand Frappier, Director of the Institute of Microbiology and Hygiene of the University of Montreal. The dose used was 0.2 mg. of BCG in 0.2 c.c. solution, administered as two intracutaneous injections of 0.1 c.c. each, at different sites on the upper arm or thigh. Vaccination was done on the basis of a signed request by the individual desiring it.

From an appraisal of the results of this investigation, based upon information up to 31 March 1945, the author makes the following conclusions:

The vaccination with BCG of nurses negative to tuberculin on entrance to a General Hospital environment, where the rate of infection per year was approximately 12 per cent among the nonvaccinated negative reactors, and where the duration of exposure was 2.42 years, reduced the number of cases of manifest tuberculosis that developed among this group by 75 per cent, with the resulting ratio of 1:4.27 when the vaccinated negative reactors were compared with nonvaccinated negative reactors.

The vaccination with BCG of Saskatchewan Sanatorium employees negative to tuberculin on entrance to the sanatorium environment, where the rate of infection among the nonvaccinated negative reactors was 60 per cent during the first year of exposure, and the duration of exposure was 1.44 years, reduced the number of cases of manifest tuberculosis that developed among this

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group by 80 per cent, with the resulting ratio of 1:5.03 when the vaccinated negative reactors were compared with nonvaccinated negative reactors.

Vaccination with BCG is not 100 per cent effective against the development of tuberculosis; its protection is very considerable, but by no means absolute.

Vaccination with BCG was found to be safe.

Regarding the severity of manifest tuberculosis developed among the vaccinated as compared with the nonvaccinated negative reactors, it was found that in the vaccinated group the lesions were less extensive.

The serious situation that had been developing with regard to excessive incidence of tuberculosis among nurses and sanatorium employees who did not react to tuberculin on entering the environment, during the period 1930 to 1938, has not been present since the vaccination of negative reactors was begun in September 1938. (Am. Rev. Tuberc., Oct.-Nov. '46 - Ferguson)

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On Rehabilitation Following Trauma: On May 30, 1941 at the Annual Meeting of the American Association for the Surgery of Trauma, Dr. Robert H. Kennedy of New York said:

"We are wasting a tremendous amount of money and manpower by treating a broken bone and letting a well man get sick physically and mentally while under our care. Then after the damage is done, we spend months, years, or a lifetime trying to bring him back to normal."

In the treatment of trauma the emphasis has been mainly on the improvement of technics employed during the acute phase. It is the duty of physicians to exert every effort toward the saving of life and limb of those in their care; but when these two obligations have been carried out there still remains one more, the restoration of function at the earliest moment consistent with good medicine.

There is not infrequently seen, for example, the "frozen shoulder" resulting from the unthinkingly guided after-care of a Colles fracture, and the stiff fingers in a similar injury that result from the same type of after-care. Both conditions occur more often than they should. Physicians all realize this, but what are they doing about it? The roentgenogram may show an excellent reduction, but that is of little comfort or use to the patient if his

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fingers are stiff or his shoulder is frozen and he cannot return to work. Weeks or even months must be spent in physical and occupational therapy trying to regain function which should never have been lost in the first place.

Some remedies are suggested:

Begin in the medical schools by teaching the basic principles of physical medicine, physical and occupational therapy, and rehabilitation.

Require surgical internes to serve some time in the physical and occupational therapy departments and acquire a working knowledge of the methods used.

Require surgical residents to serve some time in these departments (where referred patients are received) and to plan and administer the therapy under the supervision of the chief therapists.

Periodically take up rehabilitation matters at staff conferences and have the staff members occasionally visit such departments.

Have the chief therapists from the physical and occupational therapy departments make periodic ward rounds with the surgeons and attend staff conferences.

Allocate time for papers or discussions on rehabilitation at national, state, and local medical society meetings.

(Occupational Therapy, Dec. '46 - Reggio)

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Suture Traction Loop: To lessen the pain of suture removal it occurred to the author some time ago to introduce a "traction loop" into the suture line to facilitate the elevation of the stiches at the time of removal. Upon completion of the skin suture (the author customarily uses a running modified mattress suture), a continuous loop of silk thread (or cotton) is run through each individual suture. This is done by reversing the needle so that the non-cutting end (threaded end) will pass under each suture without cutting the thread. The traction thread having been passed under the entire suture line is then tied, forming the "traction loop."

When the sutures are to be removed, the "traction loop" is elevated with a pair of forceps. This pulls the sutures away from the skin surface, one at

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a time as they are cut. With the scissors paralleling the skin surface the individual sutures are cut one after another until the "traction loop" is released. With all sutures cut, there remains the simple process of pulling each out of the skin. The whole process is simple, quick, and relatively free of pain.

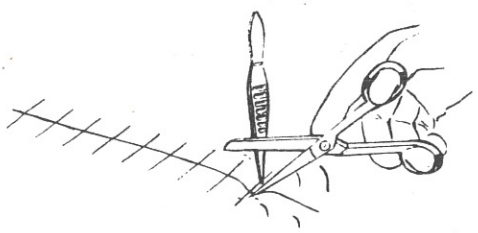

FIG. 1. Usual, more painful method of cutting sutures.

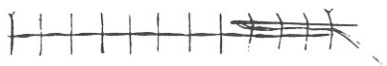

FIG. 2. Threading "traction loop" through completed suture line.

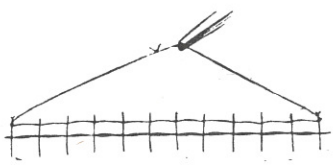

FIG. 3. "Traction loop" completed.

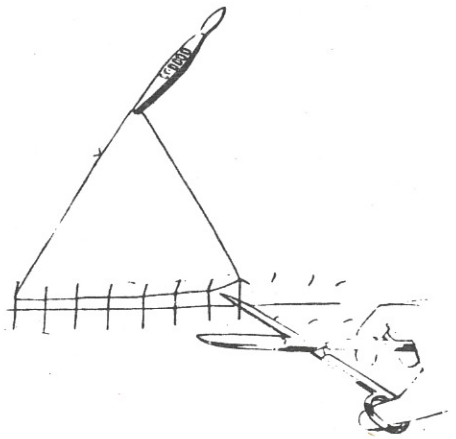

FIG. 4. Cutting sutures with the help of the "traction loop."

The "traction loop" eliminates the usual searching for, digging out, and elevating of each individual suture which frequently is embedded or buried in dried serum or blood. Also, because the "traction loop" is inserted at the time of operation before swelling has developed, every stitch is included, and this is an assurance against missing a stitch at the time of removal.

Practical results have been so encouraging that it has proven amply worth while to the author to add this simple pain-saving device to his routine technic of wound closure. (Am. J. Surg., Jan. '47 - D. L. Borden)

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Complications Following the Use of Cotton As Suture Material: The use of spool cotton as suture material in surgery has been employed routinely in many outstanding surgical clinics in this country for several years and is now well established. Complications following the use of cotton have been so rare as to warrant their publication as individual case reports. Cotton as suture material was first used routinely in all the author's cases early in 1943 and it seemed entirely satisfactory, as was anticipated. However, after a few

months, complications which were considered directly attributable to the suture material began to be encountered with sufficient frequency to prompt investigation of such cases with a view to determining the incidence and causes of these complications.

The main advantages that have been claimed for cotton are its pliability, decreased tissue reaction, adequate tensile strength, high coefficient of friction, and stability on exposure to heat and moisture. Another distinct advantage is that use of it encourages the surgeon to be gentle in the handling of tissues.

It has been repeatedly pointed out by Ochsner and others that the successful use of cotton depends upon strict observance of the tenets of Halsted, which are as follows:

1. Use interrupted sutures only.
2. Never use coarse suture material.
3. Never bridge over a dead space, producing the geometrical resemblance of a cord subtending an arc.
4. Use transfixion sutures in ligation since finer material can be used in this way.
5 Rather than a few coarse stitches, use a greater number of fine ones.
6. Avoid the combined use of absorbable and nonabsorbable sutures.

Methods and Material. The present report is based upon 372 operations of various types in which cotton was used as suture material either alone or in conjunction with catgut. The only cases in which the two materials were used together were in laparotomies in which the peritoneum was sutured with continuous chromicized catgut and the remainder of the structures with interrupted cotton. Ordinary long fiber spool cotton, sterilized by autoclaving, was employed in every case. Only three sizes were used: No. 60 for ligation of small vessels, No. 30 for suture of the deep fascia and ligation of larger vessels, and occasionally heavy crochet cotton for ligation of still larger vessels. In the types of operations performed it was seldom necessary to use the heavy cotton. The tenets of Halsted were followed except for the combined use of absorbable and nonabsorbable sutures as mentioned.

The series included 34 different types of operations, of which 158 were laparotomies, 74 orthopedic procedures of various types, and the remainder herniorrhaphies, thyroidectomies, repair of deep traumatic wounds, kidney operations, mastectomies, and excisions of subcutaneous tumors. Cotton was used indiscriminately whether or not the wounds were infected or contaminated.

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The patients were carefully observed for from 4 to 18 months. The original wounds were classified as either clean or contaminated. A contaminated wound is defined as one in which there was previous soiling from outside sources or in which an obviously infected organ such as a perforated appendix was removed. Postoperative wound complications were carefully watched for and the most trivial ones reported. There were 311 (83.6 per cent) clean and 61 (16.4 per cent) contaminated wounds. The complications ranged in severity from complete disruption and deep abscesses to small hematomas and maceration of the skin edges.

There were 29 cases (7.7 per cent) with early postoperative complications, 15 of which were severe, and 14 trivial. The most serious early complication, wound disruption, occurred in 2 cases of gravely ill patients. This complication is seldom encountered when wounds have been sutured with cotton. One patient had undergone a one-stage resection of the right colon for carcinoma, and the other, a cholecystectomy for a ruptured gall bladder with generalized bile peritonitis. Secondary suture with through-and-through silk sutures was carried out in each case with resultant uneventful healing. The appearance of the wounds at the time of secondary closure was interesting in that very little cotton could be seen and the small amount present was fragmented. It is thought that this complication cannot be solely attributed to the suture material because there were obviously several other factors responsible which are usually found in all cases of wound disruption regardless of the type of suture material employed. The remainder of the early postoperative complications were in no respect unusual.

In the group of late complications encountered, even the most trivial were included for analysis. It was considered of particular importance to note whether or not any cotton knots were extruded from the depths of the wounds. The occasional extrusion of a cotton knot, if it did not interfere with wound healing, was not considered serious. However, the patient frequently attaches undue significance to this and in two cases which were not considered serious or complicated from the standpoint of healing, there were threats of litigation. If a large number of knots was extruded or if the suture material was considered definitely to interfere with the healing of the wound, the complication had to be regarded as serious. All of those cases in which it was thought that the suture material alone was not responsible for the difficulty were excluded from this group. According to this criterion, of the 17 cases (4.5 per cent) with late complications, 9 (2.4 per cent of the entire series) were considered serious. The complications often did not appear until several weeks or months after the wound had healed, and in three cases exploration was necessary.

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An attempt was made to discover whether or not any common denominator could be applied to the cases with late complications. It was discovered early in the study that the cases did not follow any definite pattern in regard to infection. For example, there were several perfectly clean wounds from which cotton was extruded or had to be removed at a later date after healing had progressed uneventfully. On the other hand, there were several patients with perforated appendices and considerable peritonitis whose wounds healed uneventfully. One of the most striking of these was a patient with a perforated appendix with massive fecal leakage into the peritoneal cavity; his general condition was complicated by rather severe diabetes. Cotton has also been used to close colostomies without causing difficulty.

Of the 17 cases with late complications, 9 were originally calssified as clean wounds. Of these, 2 developed severe infections postoperatively. If these are added to the cases which were originally contaminated or infected, it is seen that there is a total of 10 cases in which infection was a conspicuous feature.

In all of the 9 cases with serious late complications, draining sinuses appeared at various times following operation and they all had one factor in common, wound healing did not occur until all of the cotton had been removed either by being extruded spontaneously or by surgical intervention. In 3 cases it was necessary to explore the wounds, remove many cotton sutures from the deep fascia and resuture them with catgut. This was followed by prompt healing in each instance. Two of the wounds had been grossly infected, one operation having been performed for a perforated appendix with considerable peritonitis, the other, a thyroidectomy, was followed by a deep abscess. In the third case, a total hysterectomy, the wound was perfectly clean, healed by first intention with a minimum of reaction, remained healed for 2 months, and then two sinuses appeared. Many knots were extruded or were removed with forceps but drainage continued; and at the end of 5 months, it was necessary to explore the sinuses and remove the remaining sutures in the deep fascia. Prompt healing followed.

During the latter part of the period comprising the study, it was thought that infection was the commonest cause of difficulty and the use of cotton was discontinued in cases in which infection or contamination was present.

The patients were also examined with a view to discovering whether or not cotton was unsuitable for any particular type of wound. In the 4 most common types of operation, laparotomies of all types, orthopedic procedures, thyroidectomies, and herniorrhaphies, the incidence of late complications was noted. Out of 158 laparotomies there were 6 complications (3.8 per cent). In

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74 orthopedic procedures there were 2 complications (2.7 per cent). In 46 herniorrhaphies there was 1 (2.2 per cent). In 32 thyroidectomies there were 3 (9.3 per cent). When broken down in such a manner it is acknowledged that the series of operations is entirely too small from which to draw any definite conclusions. But here again, with the exception of the thyroidectomies, infection seems to be the only factor that appears with any degree of consistency whatever. The question as to whether or not the quantity of cotton buried in any one wound has any effect upon the healing also arose. In this connection, one would expect to find more difficulty with the thyroidectomies than with any of the other types of operations, as much more cotton is used in them. This was not found to be the case.

The series was arbitrarily divided into three parts on a chronological basis. In the first one-third there were 9 complications; in the second, 7; while in the last one-third there was only 1. One possible explanation for this is that the writer became more and more adept in the use of cotton and more meticulous in his technic with the passage of time. Even though he had had previous experience in the use of nonabsorbable suture material in the form of silk, he had become thoroughly accustomed to the use of catgut, which had been employed for several years. Although every effort was made to carry out each procedure as meticulously as possible, early in the series it was found that there was a natural tendency to use cotton in a fashion similar to that in which silk had been used; it was frequently found that too much tissue had been included in a ligature, for example. However, the better results in the last group may be partly due to the fact that no contaminated cases were included. The decreasing incidence of complications might also be due to the fact that in the last group insufficient time had elapsed for all of them to appear. But in the vast majority of cases the complications occurred within the first 4 months and all of the cases were observed for at least that length of time.

Discussion. Although it is not considered that all of the causes of complications have been found, from the analysis presented it seems that the most conspicuous single factor in the complicated wounds is infection. Even though it was a factor in only a slight majority, it is regarded as sufficiently important to cause the writer to feel that cotton is not the suture material of choice in such cases, in spite of many opinions to the contrary. Emphasis must also be placed upon surgical technic in the use of this material and it is considered that the results, at least in the clean cases, should show further improvement. It is thought that an incidence of 2.4 per cent of serious postoperative complications due to suture material is entirely too high, and the 3 cases in which the deep sutures had to be removed would be sufficient to

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cause many surgeons to abandon cotton entirely. Consequently, a word of warning to the surgeon who has been accustomed to the use of catgut and considers adopting cotton is believed to be in order.

Conclusions. In a series of 372 operations in which cotton suture material was employed there were 17 cases (4.5 per cent) with late complications attributable to the suture material. This is considerably higher than the incidence reported in the literature. Of these, 9 were considered serious and 8 mild. Two early complications in the form of wound disruption were encountered, a number that is rare according to the literature. Infection did not seem to be present frequently enough to attribute all of the bad results to it. Complications were present more frequently in the earlier than in the later cases in the series, and it is suggested that this may be due to improvement in technic in the later cases as well as to the fact that the use of cotton was finally given up in obviously infected or contaminated cases.

Although cotton is still considered an excellent suture material, contrary to general opinion, it is not entirely without hazards and has definite limitations. (Surg., Gynec. & Obstet., Jan. '47 - Derbyshire)

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Preliminary Report on the Effect of the Oral Administration of Para-aminobenzoic Acid on the Concentration of Salicylates in the Blood: The desirability of obtaining a content of from 35 to 50 mg. of salicylate per 100 c.c. of blood in the treatment of rheumatic fever has been generally accepted; and it has been shown that such blood levels can be attained as effectively by oral dosage as by intravenous administration.

Evidence is accumulating to suggest that the action of salicylates in rheumatic fever may be more specific than formerly was supposed. Such evidence has been elicited in a number of ways, and has passed through several stages. First, it is known that rheumatic fever affects predominantly mesenchymal structures, the principal substrate of which is hyaluronic acid. The younger the tissue, the more readily will diffusion take place, and any agent capable of hydrolyzing hyaluronic acid increases this property. Second, the enzyme, hyaluronidase (derived from many strains of hemolytic types of streptococci and from extracts of umbilical cord and testes), is capable of just this action: it decreases the viscosity and favors the passage of liquids, exudates, and pathogenic micro-organisms in the substrate of connective tissues and mucoid tissues. These are the tissues that compose the articulations and the synovial membranes, the very structures predominantly affected by rheumatic fever. When dyes are injected into the skin, the addition of hyaluronidase causes an

increased diffusibility of these dyes, as demonstrated in a novel manner in both human beings and animals by Guerra (see page 18 of Bumed News Letter of 25 October 1946). Thus, when a suitable dye mixed with hyaluronidase was injected intradermally into animals, there was an extensive spread of the dye which was estimated to be six times as great as the spread obtained after the intradermal injection of the same dye suspended in solution of sodium chloride. Third, and even more impressive is that the extent of the spread is inhibited from 57 to 66 per cent by the oral or intravenous administration of sodium salicylate, and that the degree of inhibition varies according to the dose of salicylate administered. Furthermore, unique reactions with enormous diffusion of the dye and local edema sometimes follow the intradermal injection of the dye and hyaluronidase into patients who have acute rheumatic fever or who previously had rheumatic fever. In such persons salicylates likewise have a tendency to inhibit the reaction and the spread of the dye.

That hyaluronic acid and hyaluronidase might have some specific effect on the sedimentation rate of erythrocytes in the presence of rheumatic fever has been suggested by Meyer, Hahnel, and Feiner. Hyaluronic acid added to blood in vitro or in vivo causes an increase in the sedimentation rate which can be counteracted by the addition of hyaluronidase. These investigators found that in rheumatic fever the addition to the blood of a highly purified extract of testes led to a specific decrease in the sedimentation rate.

These observations are illuminating from the standpoint of the etiology and behavior of rheumatic fever when they are considered in the light of an enzyme system capable of producing such profound and dramatic effects in special regions and tissues without actual direct bacterial invasion; and they are also in keeping with the explosive nature of the manifestation of rheumatic fever in the joints, a phenomenon which for a long time has been regarded by some as being allergic in character. Furthermore, the quantitative relationship which these reactions seem to bear to salicylate saturation cannot be without significance. With this fact in mind then, the assurance of adequate quantities of salicylates in the blood must be of much importance. Inadequate therapeutic responses and relapses in some cases may be directly related to those instances in which inadequate blood salicylate levels are obtained; and it is in this connection that the authors have made certain observations pertaining to the use of para-aminobenzoic acid with the salicylates.

Recently, a therapeutic problem presented itself in the treatment of a forty-two year old man suffering from a typical attack of acute rheumatic fever. In spite of a liberal intake of salicylic acid, namely, 150 grains (10 Gm.), with an equal amount of sodium bicarbonate per day, the desired therapeutic response did not occur after twenty-three days of treatment. At this

point it was found that the blood salicylate concentration varied between 12.5 and 15 mg. per 100 c.c. On more or less empiric grounds, the simultaneous oral administration of para-aminobenzoic acid was suggested. An initial dose of 4 Gm. was followed by 2 Gm. every two hours, around the clock. The dose of salicylate remained unchanged throughout the twenty-six days that followed. First, there was a steady increase in the content of salicylate from 12.5 to 34.5 mg. per 100 c.c. of blood by the seventh day of therapy with para-aminobenzoic acid, after which the figure leveled off until, when the use of para-aminobenzoic acid was discontinued, it decreased fairly abruptly to 15 mg. per 100 c.c. of blood by the eleventh day. On repeating this process, when para-aminobenzoic acid was administered again, the same increase in the concentration of salicylate in the blood was noted, with a decrease in this content after the use of the acid was discontinued. Second, there was a dramatic and complete clinical response as the content of salicylate reached 37.5 mg. per 100 c.c. of blood. Third, there was an increase in the content of para-aminobenzoic acid to 11.4 mg. per 100 c.c. of blood by the fourth day, and a decrease to zero within twenty-four hours after its use was discontinued, indicating how rapidly it is eliminated from the body. Fourth, the sedimentation rate of erythrocytes was 115 mm. in one hour at the point at which administration of para-aminobenzoic acid was started; this rate gradually decreased to 23 mm. per hour by the twenty-sixth day.

All medication was discontinued twenty-six days after the initial administration of para-aminobenzoic acid, and the patient was allowed to continue to rest in bed in his own home. Within four days he had a relapse and was readmitted to the hospital. On this occasion, in order to determine whether or not para-aminobenzoic acid had any alleviating effect on the manifestations of acute rheumatic fever, treatment was started with only para-aminobenzoic acid and sodium bicarbonate with the intention of continuing these two drugs for a few days. This plan, however, had to be abandoned by the next day because of the acuteness of the symptoms in the patient's joints. Sodium salicylate was administered again in a dosage of 10 Gm. per day. The sedimentation rate meanwhile had increased to 110 mm. in one hour. The effects of sodium salicylate and para-aminobenzoic acid combined were again clearly shown. Discontinuance of the use of salicylates after four days of continuous administration resulted in a decrease to zero in the content of sodium salicylate of the blood forty-eight hours later. Associated with this was a decrease of the content of para-aminobenzoic acid from 19.4 mg. to 2.4 mg. per 100 c.c. with the concentration values subsequently determined fluctuating between 1.5 mg. and 3.5 mg. until salicylates again were administered, at which time the content of para-aminobenzoic acid once more increased rapidly to 17.4 per 100 c.c. of blood. The increase of salicylate and para-aminobenzoic acid concentrations in the blood therefore seems to depend upon the presence in the body of the two drugs at the same time.

(Not Restricted)

Zero values on tests for salicylates in the blood were obtained when para-aminobenzoic acid alone was being administered, indicating that there is no reaction dependent on para-aminobenzoic acid which might be confused with that dependent on salicylates.

There was an increase in the amount of salicylate in the daily output of urine while the patient was receiving salicylates alone as compared with the amount of salicylate in the urine when both drugs were being administered.

During this patient's second episode of rheumatic fever, clinical remission again occurred when a satisfactory content of salicylates in the blood was reached. By the fifth morning after his second admission this patient was entirely free in the joints of the signs and symptoms of rheumatic fever.

Comment: In two control experiments involving healthy men it has since been demonstrated that the content of salicylate in the blood obtained by a fixed daily dosage of 10.6 Gm. of sodium salicylate with an equal amount of sodium bicarbonate increases considerably after the supplementary administration of 24 grains (1.55 Gm.) of para-aminobenzoic acid per day.

Para-aminobenzoic acid is a detoxified aniline; it is one of the factors of the vitamin B complex and is widely distributed in nature, the richest source being yeast. It is present in most tissue fluids and elimination products. Practically all efficient local anesthetic agents are ester-like combinations of amino alcohol with para-aminobenzoic acid or other benzoic-acid derivatives.

An extensive bibliography reflects a diversity of physiologic properties assigned to para-aminobenzoic acid, and these properties have been intensely investigated in practically every field of scientific research. Many claims regarding the potential activities and effects of para-aminobenzoic acid on various bodily functions no doubt are still unproved. However, because of direct clinical interest, the authors point out its antisulfonamide action, its inhibitory effect on several types of rickettsial micro-organisms both experimentally and in human beings, its growth-promoting qualities in a variety of organisms, and its detoxification action on drugs such as hydroquinone, carbarsone, and other pentavalent arsenical compounds.

As already indicated, para-aminobenzoic acid is rapidly absorbed and rapidly excreted. The innocuousness of para-aminobenzoic acid is well established, as reported by Tierney on the treatment of tsutsugamushi disease. He administered an initial dose of 8 Gm. by mouth which was followed by 3 Gm. every two hours. In some patients the content of para-aminobenzoic acid became as high as from 95 to 150 mg. per 100 c.c. of blood, and it was in such patients that the most striking responses were obtained.

(Not Restricted)

Summary: When administered orally together, salicylates and para-aminobenzoic acid effect an increase in the concentration of each other in the blood. Additional studies are in progress to determine whether this phenomenon is dependent on competitive excretion by the kidney or on some other metabolic effect. (Proc. Staff. Meet., Mayo Clin., Dec. 24, '46 - Dry et al.)

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(Not Restricted)

Treatment in Chancroid, Lymphogranuloma Venereum, and Granuloma Inguinale: The Army, through issue of Technical Bulletin MED 151, recently modified its recommended treatment of chancroid, lymphogranuloma venereum, and granuloma inguinale as follows:

Treatment. Chemotherapy is the treatment of choice. Sulfadiazine should be administered in a dose of 1 Gm. (15 grains) three times daily for 21 days. Experience has shown that in patients who do not respond to the first course of chemotherapy, response to additional courses is doubtful.

In the presence of nonreceding adenitis, after a fair trial with chemotherapy, experience has shown that complete excision of all involved lymph nodes with primary closure should be carried out before suppuration, sinus formation, and adhesions to periglandular structures have occurred. Aspiration of fluctuant nodes is considered useless and inadvisable.

In the event of rectal stricture, prolonged gentle dilatation, preferably manual, is indicated. Colostomy should not be performed unless dilatation is impossible or has failed.

Perirectal abscess should be incised and drained.

Fistula-in-ano should be excised when possible.

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(Not Restricted)

BAL in Experimental Argyrosis: From studies carried out on a limited number of rats by C. T. Olcott and W. F. Riker, Jr., of the Department of Pathology and Pharmacology of Cornell University Medical School, it appears that BAL (2,3-dimercaptopropanol) is incapable of mobilizing silver, which is deposited in the tissues as metallic silver or silver oxide. Because it is believed that silver pigment is deposited in the at in a way essentially similar to that in which it is deposited in man, it seems likely that BAL should prove of little or no value in the treatment of argyrosis in human beings. (Science, Jan. 17, '47)

(Not Restricted)

Abstracts of Reports on Research Projects:

NMRI-168
8 Dec.'46

The Effect on Neurological Sequellae of Ligation of the Anterior Cerebral Circulation with Normal and Reduced Blood Pressures.

In 1944 Campbell and Forster studied the effects of ligation of the anterior cerebral circulation in the Macaque monkey. Their experiments make no reference to the state of the animal's blood pressure during the operations. It was decided, therefore, that ligation of the anterior cerebral circulation in the presence of normal and reduced blood pressures should be studied. In the experiment six monkeys were used, two of which were controls.

The blood pressures of the control animals were kept within normal limits during the operation. Both recovered promptly from anesthesia and were normal except for transient weakness in their lower extremities.

Four monkeys had their anterior cerebral circulation interrupted in the presence of marked hypotension. With the exception of one which died without regaining consciousness, all of these animals developed paralysis of the lower extremities as well as a weakness of the upper extremities. One animal which survived 16 days postoperatively showed no voluntary movement of the lower extremities at any time, and because of weakness and apraxia of the upper extremities, became undernourished and died.

Thus, neurologic sequellae persisted in the hypotensive animals, but in the animals with normal blood pressure, the neurologic sequellae were transitory. (Nav. Med. Res. Inst., Bethesda, Md. - Thompson and Rhode)

Note: Those interested in seeing copies of the complete reports should address their request to the Research Division, BuMed.

Opinions or conclusions contained in these reports are those of the authors. They are not to be construed as necessarily reflecting the views or the endorsement of the Navy Department. Reference may be made to those reports marked "Not Restricted" in the same way as to published articles noting authors, title, source, date, project number, and report number. No part of the content of RESTRICTED reports may be published, reproduced, or referred to in articles for publication without permission obtained through the Bureau of Medicine and Surgery.

(Not Restricted)

List of Available Courses in Civilian Institutions: Periodically the Bureau of Medicine and Surgery announces the progress made in the Graduate Training Program. This report is a supplement of the "Outline of Graduate Training in Naval Hospitals" as published 1 May 1946, and is made with the idea of furnishing the medical officer a partial answer regarding the extent and possibilities of available training in the Navy.

"Part B" of the Outline provides for residency-type training in Naval Hospitals. There are approximately 202 approved residencies in Naval Hospitals. "Part C" of the Outline provides for the "Special and Continuation Courses" shown in the following list.

Requests for training should be submitted approximately from 3 to 4 months prior to the beginning of the course of instruction. This represents a change in policy as experience has shown the necessity of submitting requests several months in advance in order more adequately to plan and carry out the training program. Eligibility is changed to officers of any rank with the necessary background and experience.

Requests should be submitted in accordance with Bumed News Letter dated 24 May 1946 and must include a signed 3-year agreement, if applicable, and should be accompanied by 2 recent photographs of approximately 2 inches by 3 inches in size.

COURSES IN CIVILIAN INSTITUTIONS

No. of Places	Institution	Specialty	Type of Training	Duration	Starts
		ACCELERATION (Research)			
1	Univ. of So. California (Leading to Degree Master of Medical Science)		Course	9 Months	10-1-47
		ANESTHESIA			
3	Mayo Clinic		Course	6 Months	Every quarter
2	Univ. of Tennessee (Caudal Analgesia) (Open only to those interested in Obstetrics)		Course	2 Weeks	Any time
		BRONCHOSCOPY			
1	Jefferson Medical College		Fellowship	8 Months	7-1-47
2	University of Illinois		Course	2 Weeks	Any time

COURSES IN CIVILIAN INSTITUTIONS (Cont.)

No. of Placed	Institution	Specialty	Type of Training	Duration	Starts
	DERMATOLOGY & SYPHILOLOGY				
2	Northwestern University		Course	9 Months	10-1-47
2	Skin and Cancer Unit of the New York Postgraduate Medical School of Columbia University		Course	11 Months	10-1-47
1	Harvard University		Course	11 Months	10-1-47
1	Indiana Univ. School of Medicine		Residency	12 Months	7-1-47
1	University of Pennsylvania (Will be arranged upon request)		Course	8 Months	10-1-47
	DISEASES OF THE CHEST				
*6	Trudeau School of Tuberculosis		Course	4 Weeks	9-1-47
*6	Bellevue Hospital, New York City		Course	2 Weeks	10-1-47
	*Course runs concurrently.				
	ELECTRO-ENCEPHALOGRAPHY				
2	National Naval Medical Center, Bethesda		Course	6 Months	10-1-47
	ENDAURAL FENESTRATION				
1	Lempert Otological Institute (Open only to diplomates of American Board of Otolaryngology)		Course	6 Weeks	Any time
	INTERNAL MEDICINE				
1	Northwestern University		Course	12 Months	10-1-47
1	State University of Iowa		Fellowship	12 Months	10-1-47
6	University of Pennsylvania		Course	8 Months	10-1-47
5	Cornell University Medical School (Intensive 1-year course condensed into 6 months)		Course	6 Months	4-1-47
1	Mayo Clinic		Course	12 Months	10-1-47
1	Mayo Clinic		Course	12 Months	7-1-47
1	Strong Memorial Hospital (First-Year Resident Level)		Residency	12 Months	7-1-47
1	Indiana Univ. School of Medicine		Course	12 Months	7-1-47
1	New York Hospital, New York City		Course	12 Months	1-1-48

COURSES IN CIVILIAN INSTITUTIONS (Cont.)

No. of Places	Institution	Specialty	Type of Training	Duration	Starts
		NEUROSURGERY			
1	Marquette University		Preceptorship	12 Months	9-1-47
1	Massachusetts General Hospital		Preceptorship	12 Months	7-1-47
1	Lahey Clinic		Fellowship	12 Months	10-1-47
		OBSTETRICS & GYNECOLOGY			
2	University of Pennsylvania		Course	8 Months	10-1-47
		ONCOLOGY			
1	Oncology (Surgery)		Residency	12 Months	7-1-47
1	Oncology (Pathology)		Course	12 Months	7-1-47
1	Oncology (Radiology)		Course	12 Months	7-1-47
1	Oncology (Internal Med. & Research) (All given at Memorial Hospital, New York City)		Research	12 Months	7-1-47
		OPHTHALMOLOGY			
3	University of Pennsylvania		Course	8 Months	10-1-47
2	Washington Univ. of St. Louis (Second-Year Level)		Course	12 Months	10-1-47
1	Illinois Eye & Ear Infirmary (Second-Year Resident Level)		Course	12 Months	7-1-47
1	Indiana University School of Med.		Residency	12 Months	7-1-47
1	Tulane University		Course	12 Months	7-1-47
1	University of Michigan (Third-Year Resident Level)		Course	12 Months	7-1-47
2	Boston City Hospital		Residency	10 Months	9-1-47
1	Northwestern Univ. (Dr. Derrick Vail)		Course	4 Months	7-1-47
		ORTHOPEDICS			
1	James W. Riley Mem. Hospital, Indiana Univ. (Children's Ortho.)		Residency	12 Months	1-1-48
2	Duke University (Children's Ortho.)		Residency	12 Months	1-1-48
1	Lahey Clinic		Fellowship	12 Months	10-1-47
1	Washington Univ. of St. Louis (Second-Year Level)		Fellowship	12 Months	7-1-47
1	Cleveland Clinic		Fellowship	12 Months	1-1-48

COURSES IN CIVILIAN INSTITUTIONS (Cont.)

No. of Places	Institution	Specialty	Type of Training	Duration	Starts
		OTOLARYNGOLOGY			
1	New York Hospital, New York City		Fellowship	12 Months	2-1-48
1	University of Illinois		Course	9 Months	10-7-47
1	Northwestern University		Course	9 Months	10-1-47
3	University of Pennsylvania		Course	8 Months	10-1-47
1	Washington Univ. of St. Louis		Fellowship	8 Months	9-16-47
1	Indiana Univ. School of Medicine		Residency	12 Months	7-1-47
		PATHOLOGY			
1	Indiana Univ. School of Medicine (First-Year Graduate Level)		Residency	12 Months	7-1-47
1	Henry Ford Hospital		Fellowship	12 Months	7-1-47
1	Mayo Clinic		Course	12 Months	7-1-47
1	Wayne University Medical College (Second-Year Level)		Fellowship	12 Months	7-1-47
1	University of Michigan		Fellowship	12 Months	7-1-47
		PHYSICAL MEDICINE			
2	Mayo Clinic		Fellowship	12 Months	Every quarter
		PSYCHIATRY			
1	Payne Whitney Psych. Div. New York Hospital, New York City		Fellowship	12 Months	6-1-47
1	Jefferson Hospital, Phila., Pa.		Fellowship	12 Months	4-4-47
1	N.Y. Neurological Institute		Fellowship	12 Months	4-1-47
1	N.Y. Psychiatric Institute		Fellowship	12 Months	4-1-47
1	Langley Porter Clinic, Univ. Calif.		Fellowship	12 Months	4-1-47
1	Bellevue Hospital, NYC		Fellowship	12 Months	4-1-47
1	University of Louisville		Fellowship	12 Months	4-1-47
2	Penn. Hosp. for Mental & Nervous Diseases, Phila., Pa. (For Flight Surgeons)		Fellowship	12 Months	8-1-47
1	Penn. Hosp. for Mental & Nervous Diseases, Phila., Pa.		Fellowship	12 Months	5-1-47
1	Phila. Child Guidance Clinic		Fellowship	10 Months	10-1-47
2	Illinois Psychiatric Institute, Univ. of Illinois		Course	12 Months	4-1-47

COURSES IN CIVILIAN INSTITUTIONS (Cont.)

No. of Places	Institution	Specialty	Type of Training	Duration	Starts
		PUBLIC HEALTH			
2	Harvard University		Course	8 Months	9-1-47
5	Johns Hopkins University		Course	8 Months	9-30-47
	(Courses in Medical Statistics, Tropical Medicine, and Industrial Medicine arranged upon request beginning every fall)				
	All leading to the Degree of Master of Public Health				
		RADIOLOGY			
1	Johns Hopkins University		Fellowship	12 Months	7-1-47
1	Washington Univ. of St. Louis		Fellowship	12 Months	7-1-47
1	New York Hospital, N.Y.C.		Fellowship	12 Months	7-1-47
1	Lahey Clinic		Fellowship	12 Months	10-1-47
1-2	Harper Hospital, Detroit, Mich.		Residency	12 Months	1-1-48
1	State University of Iowa		Residency	12 Months	7-1-47
1	Henry Ford Hospital (Any Level)		Residency	12 Months	10-1-47
1	Indiana Univ. School of Medicine		Residency	12 Months	7-1-47
3	University of Pennsylvania		Course	8 Months	10-1-47
		SURGERY			
1	Cleveland Clinic		Fellowship	12 Months	10-1-47
1	Northwestern University (Cook County Hosp.)		Fellowship	12 Months	1-1-48
1	*Philadelphia General Hospital		Residency	12 Months	7-1-47
6	University of Pennsylvania		Course	8 Months	10-1-47
2	State University of Iowa		Fellowship	12 Months	10-1-47
2	Lahey Clinic		Fellowship	12 Months	10-1-47
2	University of Illinois		Fellowship	12 Months	10-1-47
2	University of Illinois (Basic Science in Surgical Specialties)		Course	9 Months	10-1-47 or 1-1-48

*Open only to officers who interned at this hospital

(Not Restricted)

COURSES IN CIVILIAN INSTITUTIONS (Cont.)

No. of Places	Institution	Specialty	Type of Training	Duration	Starts
		UROLOGY			
1	University of Michigan		Residency	12 Months	7-1-47
1	James B. Brady Foundation		Fellowship	12 Months	7-1-47
1	Washington University of St. Louis		Fellowship	12 Months	10-1-47
1	State University of Iowa		Fellowship	12 Months	5-1-47
1	Tulane University		Fellowship	12 Months	1-1-48
		LAW			
3	George Washington University		Course	36 Months	9-22-47
	1 Officer will be started in Law each September for (3) three years.				

(Professional Division, BuMed)

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(Not Restricted)

Attention Dental Officers Assigned to Duty with the Army: Changes of address of those officers assigned to duty in Theaters of Operation beyond the continental United States are not always received in the Central Officers Assignment Group, War Department. For this reason, it is requested that in the event mail received does not show the latest correct address, the proper information should be furnished by those concerned to the Central Officers Assignment Group, Attention, Naval Liaison Officer, War Department. It is suggested that in the future the Naval Liaison Officer of the War Department Central Officers Assignment Group be notified of all changes in address. (Dental Div., BuMed)

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(Not Restricted)

Reserve Medical Officers Needed for Combat Air Group Training Course: Reserve Medical Officers will be needed for a two weeks' training course of Navy and Marine combat air groups of the Naval and Marine Air Reserve Training Commands. It is anticipated that the first of these periods will occur in the month of June, 1947. Interested officers below the rank of Captain are invited to communicate with the Staff Medical Officer of CNAResTra, NAS, Glenview, Ill., stating geographic area where duty is desired, and the date which will be most convenient to attend. (Personnel Div., BuMed)

(Not Restricted)

Attention Naval Reserve Officers:

Opportunity for Active Duty. The attention of Reserve medical officers and of pharmacists is invited to the opportunity to return to active duty at (1) one of the major naval air stations of the Naval Air Reserve Training Command or at (2) one of the Naval Air Reserve Training Units (NARTUs), each as listed below:

Major Naval Air Stations of the Naval Air Reserve Training Command	Naval Air Reserve Training Units based at
NAS, Atlanta, Ga.	NAS, Anacostia, D.C.
NAS, Columbus, Ohio	NAS, Jacksonville, Fla.
NAS, Dallas, Texas	NAS, Miami, Fla.
NAS, Glenview, Ill.	NAS, Norfolk, Va.
NAS, Grosse Ile, Mich.	NAS, San Diego, Calif.
NAS, Los Alamitos, Calif.	NAS, Seattle, Wash.
NAS, Memphis, Tenn.	
NAS, Minneapolis, Minn.	
NAS, New Orleans, La.	
NAS, New York, N.Y.	
NAS, Oakland, Calif.	
NAS, Olathe, Kas.	
NAS, Squantum, Mass.	
NAS, St. Louis, Mo.	
NAS, Willow Grove, Pa.	
NAS, Denver, Colo.	

Reserve medical officers and pharmacists who are interested in active duty at one of the stations or units listed above should initiate letters to the Bureau of Naval Personnel, via the Chief of Naval Air Reserve Training, Naval Air Station, Glenview, Ill., and BuMed, listing three or four stations at which duty is desired in order of preference. Personnel are desired in ranks not above that of commander in the Medical Corps.

Officers qualifying for the above billets are advised that, consistent with the needs of the Service, every effort will be made to continue them in their assignments. Certain of the above billets carry orders to duty involving flying for designated naval flight surgeons. Government quarters are available at many of the major naval air stations.

Organized and Volunteer Reserve Affiliation. Naval Reserve flight surgeons who desire to join one of the Naval or Marine combat air groups of the

(Not Restricted)

Organized Reserve training at one of the stations listed should contact the local commanding officer for additional information. (Personnel Div., BuMed)

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(Not Restricted)

Residency-Type Training in Proctology: The Bureau of Medicine and Surgery announces additional residencies in Proctology. These residencies have been granted temporary approval by the Council on American Education and Hospitals of the American Medical Association. It is planned that such approval will be made permanent. Requests are desired from medical officers of the regular Navy to reach BuMed prior to 1 March 1947. Requests should be made in accordance with the form outlined in the Bumed News Letter dated 24 May 1946. It is recommended that the word "Surgery (Proctology)" be used as a means of identifying this specialty. Requests may be made by dispatch. (Professional Div., BuMed)

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(Not Restricted)

Public Health Foreign Reports:

Disease	Location	Date	No. of Cases
Plague	Madagascar	Nov. 11-20, '46	10
	Palestine, Jaffa	Dec. 2, '46 (date rep.)	1 (fatal)
	Peru, Huancabamba Prov., Piura Dept.	October '46	19 (2 fatal)
	Chancay Prov., Lima Dept.	October '46	1
	Portugal, Azores, Matriz	Nov. 7-Dec. 7, '46	4 (3 fatal)
Smallpox	China, Hong Kong	Dec. 1-7, '46	188
	Liberia, Monrovia	Sept. 24-Nov. 8, '46	150 (8 fatal)
	Libya	Sept. (?)-Nov. 29, '46	606 (86 fatal)
	Malay States (Federated)	Dec. 1-7, '46	262
	Trengganu	Dec. 1-14, '46	361 (68 fatal)
(alastrim)	Venezuela	Nov. 21-30, '46	157

(Not Restricted)

Public Health Foreign Reports (Cont.)

Disease	Location	Date	No. of Cases
Typhus Fever	Guatemala	October '46	78 (6 fatal)
	Eritrea	Nov. 9-Nov. 23, '46	144 (12 fatal)
Yellow Fever	French Equatorial Africa, Carnot	Dec. 7, '46 (date report)	4

(Public Health Reps., Jan. 3 and 10, '47)

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ALNAV 17 16 January 1947 (Not Restricted)

Subj: Establishment of Retirement Advisory Board.

1. SecNav has established a Retirement Advisory Board duties of which will be to recommend to him appropriate action concerning decisions of Naval Retiring Review Board and Naval Medical Survey Review Board. Any officer of Naval or Marine Corps Reserve whose case has been considered by either or both of aforementioned boards and upon which final action has not been taken by President may make application for review of decisions of such boards. Any retired or Reserve officer who claims that he was released from active duty without having been afforded adequate opportunity to be considered for retirement on account of physical disability may have his case considered by Retirement Advisory Board. Application for review of matters under cognizance of Retirement Advisory Board should be addressed to SecNav via BuPers or MarCorps as appropriate.

2. Officers of Reserve component who have been retired or released from active duty without pay pursuant to recommendation of board of medical survey or decision of naval retiring board may have such recommendations or decisions reviewed by medical survey review or retiring review boards as appropriate. Reserve officer is considered to have been released from active duty pursuant to recommendation of medical survey board or finding of retiring board when it has been found that he is suffering with a disease or injury and he is thereafter released from active duty, irrespective of reason assigned for ultimate release.

3. Attention is invited to fact that retirement in a temporary rank on account of physical disability cannot be effected unless proceedings of naval retiring board are commenced within six months from termination of temporary appointment or release from active duty whichever may occur earlier. -SecNav. James Forrestal

ALNAV 8 10 January 1947 (Not Restricted)

Subj: Required Immunization for Travel in Pacific Ocean Areas

The following are immunization requirements applicable to all military personnel and civilians traveling by naval air or surface conveyance in the Pacific Ocean areas:

(a) Travel to any area in Pacific: vaccination against smallpox, typhoid, and tetanus within previous twelve months.
(b) Travel to Japan, China, Okinawa: additional requirements are cholera and typhus immunization, both within previous six months.
(c) Travel in Philippines: cholera immunization within previous six months.
(d) Plague vaccination is not, repeat not, a prerequisite to travel but may be given to all one year of age or over, upon arrival at destination at discretion of command concerned.
(e) Requirements for children: smallpox, regardless of age; diphtheria within the past three years; typhoid and tetanus for all over twelve months of age for travel to any area in the Pacific. Where indicated by area of destination, cholera for all over six months of age and typhus for all over twelve months of age.

Travel originating in China, Japan, Okinawa and Philippines shall not be permitted unless successful vaccination for smallpox, and where indicated cholera and typhus, have been completed within the previous six months. In addition, for travel by air, a written certificate from a medical officer must be obtained certifying that the individual "has been properly immunized, is free of lice, is not suffering from a communicable disease, and is not likely to introduce disease as a result of his travel."

Officers assigning passenger space on aircraft or surface vessel shall not permit embarkation without evidence of compliance with above regulations, except in rare exceptions authorized by the district commandant or area commander.

--SecNav. James Forrestal

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ALNAV 9 10 January 1947 (Not Restricted)

Subj: Health Record Check

(Not Restricted)

Check all health records now on board against muster roll and forward records of all personnel not attached and whose present stations cannot be ascertained to the Bureau of Medicine and Surgery immediately.

--SecNav. James Forrestal

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Circular Letter 47-1 9 January 1947 (Not Restricted)

To: Naval Hospitals, Officer Procurement Offices, and Recruiting Stations.

Subj: Visual Standards for Candidates for the Nurse Corps and for the Women's Reserve.

This letter from the Chief of BuMed directs that certain changes in relation to the subject be made in the Manual of the Medical Department.

A copy of this letter has been sent to all addressees and will later be furnished those who officially hold copies of the last issue of the Manual of the Medical Department.

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Circular Letter 47-2 13 January 1947 (Not Restricted)

To: MedOfsCom, NavHosps (Continental)

Subj: Incapacity for service in the case of officer personnel, instructions regarding submission of recommendations pertaining to.

1. The Secretary of the Navy has directed that instructions be given to insure that no officer is placed in line for retirement by reason of physical disability unless he is in fact totally and permanently incapacitated for service and is thereby entitled to such retirement. It has further been directed that all possible steps be taken and caution be exercised to fully protect the Government's interest as well as that of the patient, in this matter.

2. It should be noted (JG:CA:BJM:mgl, Nov. 26, 1946) that the primary purpose of the laws governing physical retirement in the regular service is not to extend a benefit but is the means for separating from the active list an officer who is unable because of his physical condition to reasonably perform the duties that could normally be required of him. Retired pay is a collateral consideration and is provided to compensate an officer in some degree for loss

of earning power because of his separation from the active list due to disease or injury incurred incident to his naval service; and as continuing remuneration to a member of the naval service who is subject to naval discipline and to recall to active duty on the retired list.

3. Title 34 U.S. Code, Section 411, and Section 956, NC&B provides that whenever any officer, on being ordered to perform the duties appropriate to his commission, reports himself unable to comply with such order, the President, at his discretion, may direct the Secretary of the Navy to refer the case of such officer to a Naval Retiring Board; and also provides for such optional action, whenever, in the judgment of the President, an officer is incapacitated to perform the duties of his office. It should be clearly understood that appearance before a naval retiring board, in these two instances, is a matter for the decision of the Secretary of the Navy acting for the President, rather than being mandatory upon request of the officer concerned.

In connection with the "right" of an officer to demand a hearing before a Naval Retiring Board it should be noted that Title 34 USC, Sec. 412 and Section 958 NC&B, states, "No officer of the Navy shall be retired from active service, or wholly retired from the service, without a full and fair hearing before a Naval Retiring Board, if he shall demand it, except in cases where he may be retired by the President at his own request, or on account of age or length of service, or on account of failure to be recommended by an examining board for promotion.

The provisions governing the appearance of officers before a naval retiring board after failure to qualify physically for permanent promotion are contained in 34 USC, 404h and Section 957, NC&B.

4. In considering what constitutes incapacity on the part of an officer to discharge his duties, the Attorney General has held, "physical incapacity is defined as a condition, bodily or mental, which unfits at present, or is likely to unfit in the near future, the officer for the performance of his duties. (Ref: LRNA, page 598).

The Attorney General has further held that the incapacity of an officer to discharge his duties contemplated by the statute is not an incapacity to discharge them as well as they ought, theoretically, to be discharged by officers generally of the same rank and intrusted with similar duties. The law does not say that he must be incapable of performing his duties well but that he must be incapable of performing them at all, or, in other words, he must be unable to so perform them as to reasonably fulfill the purposes of his employment. (Ref: LRNA, Page 598).

It is further required that a physical disability warranting retirement by reason of incapacity for service must be a permanent incurable disease or injury of such character as absolutely to disqualify for duty on the active list. (Sec. 964, NC&B).

(Not Restricted)

In the regular Navy an officer may not be promoted permanently to a higher grade on the active list, with an exception not here pertinent, until he has been pronounced physically qualified to perform all his duties at sea (34 USC, 271). This requirement is specifically made applicable to officers in the staff corps of the Navy (34 U.S.C. 284). In the Marine Corps permanent promotion to a higher grade may not be made until an officer is pronounced physically fit to perform all his duties at sea and in the field (34 U.S.C. 665). The general test of physical qualification for promotion is the basis upon which officers in the regular services are found to be fit for service, or be unfit so as to warrant their cases being brought before retiring boards, without regard to the particular duties which any individual officer, in fact, may be called upon to perform.

It may be held therefore, that when an officer becomes physically disqualified for promotion (permanent) or when his physical condition becomes such that he cannot perform his duties so as to reasonably fulfill the purpose of his employment, he has become physically incapacitated for service.

The Act of August 27, 1940, as amended (34 U.S. Code, Sup., 855c-1), extends to officers of the Naval Reserve the benefits of retirement for physical disability under certain conditions. The opinion has been expressed (JAG:CA: BJM:mgl, Nov. 26, 1946) that the term "disability" as used in this Act, as amended, with respect to officers of the reserve forces, insofar as concerns physical retirement, means the same as the term "incapacitated for active service" as contained in section 1453, Revised Statutes, with respect to officers in the regular service. In this connection it should be noted that the term "disability" as used in the Act of August 27, 1940, as amended, does not have the same meaning as does the same term as commonly used in the medical profession to indicate a defect or disease, whether or not it is in fact disabling for performance of duty.

5. In referring officers to a naval retiring board for a finding pertaining to the question of incapacity for service by reason of physical disability, the Navy Department attempts to refer at the same time a reasonably complete medical record in each individual case. In general the studies which have been conducted in a case are reviewed and reported upon by a board of medical survey, which, as a part of its function, expresses an opinion as to the fitness or unfitness of the individual concerned, for further service. In presenting these reports the Bureau of Medicine and Surgery, acting as medical adviser to the Secretary of the Navy, may recommend disapproval of a recommendation for appearance before a naval retiring board and further recommend that the individual be returned to duty; or the Bureau may approve a recommendation for orders to appear before the retiring board in order that the case may be further adjudicated by an independent board. The latter action is not intended to imply that the Bureau of Medicine and Surgery is of the opinion that the individual concerned should be found incapacitated for service. Such cases are frequently referred to a naval retiring board with the expectation that that board, acting somewhat as a court of last resort, will afford the individual concerned a full hearing, and arrive at a finding

which after being processed by the Bureau of Medicine and Surgery, the Bureau of Naval Personnel or Commandant of the Marine Corps, and the office of the Judge Advocate General, will represent the final opinion of the Navy Department as to appropriate disposition in the case.

It must be clearly understood by all members of boards of medical survey, and by officers who appear before such boards, that a recommendation for the officers' appearance before a naval retiring board, does not establish the right of such officers to retirement by reason of incapacity resulting from physical disability. Such recommendations represent only a considered opinion by a local board and are forwarded solely for the purpose of guiding responsible authorities in effecting appropriate disposition of personnel concerned.

The determination of whether an officer is to be ordered to appear before a naval retiring board, excepting in those instances where such appearance is mandatory, is made by the Secretary of the Navy acting for the President; or by the Bureau of Medicine and Surgery and Bureau of Naval Personnel or Commandant Marine Corps, acting for the Secretary of the Navy. The retirement of an officer by reason of incapacity for service resulting from physical disability can only be effected where a naval retiring board finds an officer so incapacitated and the officer is legally entitled to such retirement and the finding is approved by the President.

6. The naval retiring boards are authorized by law to inquire into and determine the facts touching the nature and occasion of the disability of any officer ordered before them. There is also delegated to these boards such powers of a court-martial and of a court of inquiry as may be necessary. In the execution of the duty thus imposed by law the board is required to ascertain the nature and occasion of the disability and its character and effect, as temporary or permanent. (Section 959, NC&B). These powers and this authority are given the board in order that it may determine the facts and reach a conclusion in the matter before it. In view of these provisions of law pertaining to the powers and authority of the naval retiring boards, it is evident that such boards must regard the opinions and recommendations of boards of medical survey as representing only the considered opinion of the members of that particular board regarding the physical fitness of the individual reported upon. Such conclusions of boards of medical survey cannot be considered as establishing the right of the individual reported upon to be retired by reason of incapacity for service resulting from physical disability.

7. The foregoing is presented for information and guidance in the expectation it will assist in orientation in this matter. It is fully realized that many very difficult cases must be processed and that differences of opinion regarding disposition will continue to occur. It would seem however that a clear understanding of the procedures involved, and of the significance of each step in the procedure, will assist in minimizing some of the difficulties being encountered. It must be realized by all concerned that the representatives

of the naval service who process these cases bear a three-fold responsibility in protecting the rights of the individual, of the service, and of the taxpayers as represented by the Government.

—BuMed. C. A. Swanson

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Circular Letter 47-3 14 January 1947 (Not Restricted)

To: All NavHosps

Subj: Hospitalization status of temporary officers reverting to permanent ratings in the Fleet Reserve.

1. Public Law 305, 79th Congress, approved 21 February 1946, authorizing the retirement of certain officers and enlisted men of the Navy, Marine Corps and Coast Guard, provides in section 8 that personnel appointed or advanced to or in commissioned rank pursuant to the Temporary Promotion Act of 24 July 1941, when reverting to their permanent status and to inactive duty, shall have the highest grade or rank in which, as determined by the Secretary of the Navy, they served satisfactorily under a temporary appointment. In the case of enlisted men advanced to warrant or commissioned rank and reverting to enlisted status when inactivated, while their pay and allowances will be in accordance with such enlisted status, they are authorized to use the rank and to wear the uniform of the highest rank in which they served satisfactorily in temporary status as determined by the Secretary of the Navy upon appropriate occasion.

2. Accordingly, personnel in the above status when admitted to naval hospitals may be hospitalized as retired officers if they so elect, but no ration checkage shall be made in view of the provisions of Section 207 of the Naval Reserve Act of 1938 which specifies that "Members of the Fleet Reserve and retired enlisted men shall receive the ration allowance prescribed by law for enlisted men of the regular Navy when such men are hospitalized in a Federal hospital in accordance with law."

3. Former enlisted men temporarily advanced to warrant or commissioned rank who are retired in such temporary rank for physical disability, and former enlisted men temporarily advanced to warrant or commissioned rank who, first reverting to enlisted status when inactivated, are subsequently transferred to the retired list with the rank of their former warrant or commissioned status, and with pay based on such status, are officers in fact and therefore are subject to ration checkage when hospitalized.

4. Report enlisted personnel of the Navy and Marine Corps, who are hospitalized as retired officers in accordance with the above law, on lines 40 and 42 of the Ration Record, NAVMED-HF-36, as applicable. Enlisted personnel of the Coast Guard in the above status should be included in line 76 with other "retired Coast Guard personnel."

Circular Letter 47-4 21 January 1947 (Not Restricted)

To: MOIC, All Naval Hospitals; National Naval Medical Center, Bethesda, Md.; Naval Dispensary, 12th ND, San Francisco, Calif.; Naval Dispensary, Washington, D. C.; Naval Dental Clinic, Brooklyn, N.Y.; Naval Fleet Service Dispensary, Pearl Harbor, T. H.; Naval Medical Center, Guam-Saipan (not include NMSD); Naval Medical Supply Depot, Brooklyn, N. Y.; Naval Medical Supply Depot, Oakland, Calif.; USN Military Government Hospitals.

Subj: Annual Estimates of Expenditures, F.Y. 1948.

Ref: (a) BuMed ltr BuMed-23-CHR:er:mg, L1-2/EN(073) dated 31 December 1946.

1. Delete "Schedule H" in paragraph 9 of Instructions "A" of reference (a).

--BuMed. H. L. Pugh

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Circular Letter 47-5 21 January 1947 (Not Restricted)

To: Comdts, NDs, and RivComds, CinCPac, and CinCLant

Subj: Photofluorographic Examination of the Chest of all Navy and Marine Corps Personnel for the twelve months ending 15 Sep 1946.

Refs: (a) AlNav #509
(b) Para. 21103, MMD.
(c) BuMed CL #46-160

Encls: 1. (HW) Per Cent of all Navy and Marine Corps Personnel who received a routine x-ray film of the chest during period 15 Sep 1945 - 15 Sep 1946.
2. (HW) Locations of photofluorographic units.

This letter from the Chief of BuMed: (1) points out that during the year from 15 Sep 1945 to 15 Sep 1946, which coincided with most of the demobilization period, the large-size group of close to 51.2 per cent of all Naval and Marine Corps personnel remaining on active duty received a routine x-ray film of the chest, and (2) states that every effort should be made to secure this examination for all personnel, in accordance with paragraph 21103, MMD (as modified by BuMed CircLtr 46-139 of 24 Sep 1946), where facilities are available, and by use of photofluorographic equipment. Enclosure 1 shows the percentages of personnel in Naval Districts, River Commands, Atlantic and Pacific areas not in Naval Districts, and in ships of the Atlantic and Pacific fleets. Enclosure 2 shows the locations of 66 photofluorographic units now in operation.